

REMARKS

In the Office Action, claims 1-35 were rejected. By the present Response, claims 1, 22, 24, 26 and 28 are amended and claims 23 and 25 are cancelled. Upon entry of the amendments, claims 1-22, 24 and 26-35 will remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

Objections Under 37 C.F.R. 1.75 (c)

Claims 23 and 26 are objected to under 37 C.F.R. §1.75(c). Claim 23 has been cancelled and claim 26 has been amended to depend from claim 22. The Applicants respectfully request the allowance of the claim 26.

Rejections Under 35 U.S.C. § 112

Claims 1-27 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 1 and 22 have been modified to delete the terms “proximal” and “distal.” Therefore Applicants respectfully request withdrawal of the rejection.

Rejections Under 35 U.S.C. § 102

Claims 1, 22, 28-31 and 35 were rejected under 35 U.S.C. § 102(b) as being anticipated by Deublein et al., Hydrogen-Conducting Electrolyte Configurations, Solid State Ionics 28-30 (1988), pp. 1084-1088 (hereinafter “Deublein”). It is unclear whether the Examiner intended to reject some or all of the independent claims 1, 22 and 28. The formulation of the rejection refers to all the independent claims as referred in page 4 of the Office Action. The rejection is addressed as is.

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. Applicants respectfully submit that Deublein does not anticipate each and every element of the amended claims 1, 22 and 28. The examiner himself has indicated on page 5 of the Office Action that Deublein does not explicitly teach the particulars of the fuel cell system as required by claim 1. Deublein does not

disclose components of a fuel cell assembly such as a fuel gas inlet, an oxidizing gas inlet and an exhaust port as recited in claims 1 and 22. Accordingly, Deublein does not teach a fuel cell that can support a *prima facie* case of anticipation of claim 1 and 22.

Accordingly, claim 1 and 22, and claims 2-21, 24 and 26-27, which depend directly or indirectly from claims 1 and 22, are believed to be clearly patentable over Deublein.

Claim 28 was rejected as being anticipated by Deublein. Deublein describes an electrochemical cell that electrochemically transports hydrogen. There is no oxygen source used in the cells described by Deublein. Deublein teaches a concentration cell that works by introducing hydrogen gas on one electrode, which produces hydride ions at the electrode/electrolyte interface. The hydride ions travel through the electrolyte and reach the other electrode, where they combine with electrons to form hydrogen gas. Deublein neither discloses nor suggests an oxygen source as part of the electrochemical cell.

In contrast, modified claim 28 recites a cathode, where hydride ions are introduced, and an anode where oxygen is introduced from a source, and that combines with hydride ions to produce water and free electrons. The chemistry described in the electrochemical cell of Deublein is completely different from the reactions in the fuel cell of claim 28. In particular, claim 28 includes the reaction of the fuel and the oxygen to produce water and free electrons, which is not disclosed or even suggested by Deublein.

Accordingly, Deublein does not teach a fuel cell that can support a *prima facie* case of anticipation of claim 28. Accordingly, claim 28, and claims 29-31 and 35, which depend directly or indirectly from claim 28, are believed to be clearly patentable over Deublein.

Rejections Under 35 U.S.C. § 103

Claims 1-3, 9-23, 25, 27 and 32-34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Deublein in view of Kaun et al., U.S. Patent No. 4,714,661 (hereinafter "Kaun"). For a *prima facie* case of obviousness, the Examiner must set forth the differences in the claim over the applied references, set forth the proposed modifications of the reference which would be necessary to arrive at the claimed subject matter, and explain why the proposed modification would be obvious.

Applicants respectfully submit that all of these claims are patentably distinct from the applied reference for reasons similar to those discussed above. In particular, Kaun does not teach or suggest a fuel cell that functions based on the chemistry recited in claims 1, 22 or 28 and utilizing a molten salt or molten alkali metal halide electrolyte. Certainly, nothing in either reference would support modifying either to arrive at the structure claimed. Therefore claims 2-3, 9-21, 27 and 32-34 which depend directly or indirectly from claim 1, 22 and 28 are believed to be similarly allowable over the applied references.

Claims 4-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Deublein in view of Kaun, and further in view of Hatoh et al., U.S. Patent No. 5,354,627. Claims 4-7 depend directly or indirectly from claim 1. Applicants respectfully submit that claim 1 is patentably distinct from the applied references for the reasons discussed above, and because Hatoh et al. do not obviate the deficiencies of Deublein and Kaun. Therefore claims 4-7 is similarly allowable over the applied references.

Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Deublein et al. in view of Kaun et al., and further in view of Fellows, U.S. Patent No. 6,071,634. Claim 8 depends directly from claim 1. Applicants respectfully submit that claim 1 is patentably distinct from the applied references for the reasons

discussed above. Therefore claim 8 is similarly allowable over the applied references, and particularly because Fellows fails to obviate the deficiencies of Deublein.

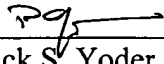
Claims 24 and 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Deublein in view of Kaun, and further in view of Aoyama, U.S. Patent No. 5,616,430. Modified claims 24 and 26 depend directly from claim 22. Applicants respectfully submit that claim 22 is patentably distinct from the applied references for the reasons discussed above. Therefore claim 24 and 26 are similarly allowable over the applied references, particularly because Aoyama does not obviate the deficiencies of Deublein and Kaun.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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